DETAILED ACTION

Remarks

1. Claims 1-3, 5-9, 11-18, 20-26, 28, 30-32, and 34-39 have been examined and rejected. This Office action is responsive to the amendment filed on 10/26/09, which has been entered in the above identified application.

Claim Objections

2. The correction(s) to claims 11, 12, and 22 have been approved, and the objections to the claims are withdrawn.

Claim Rejections - 35 USC § 112

3. The correction(s) to claims 8, 9, 11-18, 20-26, 30-32, and 34 have been approved, and the rejections to the claims under 35 U.S.C. 112, second paragraph, are withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3, 5, 6, 8, 9, 11-16, 18, 20-26, 28, 30-32, 34-36, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iverson (U.S. Patent No. 6,957,075 B1) in view of Zancho (U.S. Patent No. 5,814,798).

Claims 1-3, 5, 6, 35, 36, 38, 39

5-1. Regarding claim 1, Iverson teaches the claim comprising a user interface (UI) support module operable to store input/output modules as stored input/output modules, by disclosing enabling electronic devices to modify their user interface application set and functionality based on the location of the electronic device *[column 1, lines 8-13]*. A memory/storage device stores an interface characteristics/application set database, which correlates a number of interface characteristics and application sets with location types/operating environments and/or appliance personalities *[column 7, lines 47-54]*. An operating system as shown in *[figure 8]* provides an interface between a user interface manager application and hardware elements of the host electronic appliance *[column 11, lines 49-64]*.

Iverson teaches wherein the stored input/output modules are selected corresponding to conditions of respective users, in an input/output module storing unit, by disclosing that based on a determined location of location type of an electronic appliance, a controller identifies an appropriate appliance personality from a plurality of available personalities *[column 7, lines 39-47]*. Users can define the personalities associated with a particular location ID *[column 7, lines 2-5]* and can also change and customize the dynamically selected personality by selecting an alternate personality

[column 7, lines 9-22]. Appliance personalities represent various user interfaces and functions/applications on an electronic device that are made available to a user *[column 3, lines 23-56]*.

Iverson teaches the UI support module operable to search the input/output module storing unit for a specific input/output module of one of the respective users, by disclosing that based on a determined location of location type of an electronic appliance, a controller identifies an appropriate appliance personality from a plurality of available personalities *[column 7, lines 39-47]*.

Iverson teaches the UI support module operable to execute the specific input/output module, and operable to support a UI meeting condition of the one of the respective users, by disclosing that once an appropriate appliance personality is selected, the interface of the appliance is adjusted to reflect the selected personality *[figure 2, 208]*.

Iverson teaches wherein the UI support module comprises an input/output selecting unit, by disclosing that based on a determined location or location type of an electronic appliance, a controller identifies and selects an appropriate appliance personality from a plurality of available personalities *[column 7, lines 39-47]*. Although Iverson teaches adjusting appliance personalities to meet the dynamic demands of ever mobile appliance users *[column 8, lines 26-32]*, Iverson does not expressly teach a mapping of each of the respective users with corresponding at least one of the stored input/output modules, and a data format determining unit for determining whether a searched input/output module provided by the input/output module selecting unit can

process a type of data of the UI support module, through a table where the input/output modules and data formats that can be processed in respective input/output modules of the table are mapped. Zancho discloses selecting and managing personal attributes of devices based on user preferences *[column 1, lines 10-12; column 2, lines 31-37]*. A donor device stores and provides preferences to application devices *[column 2, lines 37-45]*. Preferences are based on a preference selection vector which is based on device type, application type, environment, and human senses *[column 9, lines 22-42]*. When obtaining user preferences from a donor device that has preferences for more than one user, information of a user such as a user code is sent to access the donor device *[column 9, lines 49-55; column 10, lines 52-61]*. The user code is used to select the appropriate preference for the device *[column 10, line 62 to column 11, line 16]*. After preferences have been established, the user can refine the established preferences to newly selected user preferences or can defer refinement and selection to a later time *[column 8, lines 23-27]*. When new preferences are needed for an application device, a donor device is searched *[figure 14, 905]*. If a donor device is found, a determination is made as to which categories of preferences between the donor device and the appliance *[figure 14, 915]*. This is made using a reference selection matrix for the particular donor device *[column 10, lines 48-51]*. This allows compatible preferences to be conveniently established for users of various devices. Since Iverson discloses the need for adjusting a user interface and perceived functionality based on location or user *[Iverson, column 2, lines 11-14]*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

include a mapping of each of the respective users with corresponding at least one of the appliance personalities, as taught by Zancho. This would allow compatible preferences to be conveniently established for users of various devices.

5-2. Regarding claim 2, Iverson and Zancho teach the claim wherein the UI support module comprises said input/output module storing unit storing and managing the input/output module, by disclosing a memory/storage device stores an interface characteristics/application set database, which correlates a number of interface characteristics and application sets with location types/operating environments and/or appliance personalities *[Iverson, column 7, lines 47-54]*.

Iverson teaches an input/output module executing unit for executing the searched input/output module searched for by the input/output module selecting unit and an input/output processing unit for processing the UI processed in the searched input/output module executed at the input/output module executing unit to output the UI on a first screen, by disclosing that once an appropriate applicant personality is selected, the interface of the appliance is adjusted to reflect the selected personality *[Iverson, figure 2, 208]*.

5-3. Regarding claim 3, Iverson and Zancho teach the claim wherein the UI support module further comprises a data processing unit for receiving and processing data necessary for generation and processing of the UI, said data being generated from an

appliance that requests the specific input/output module, by disclosing one or more processors in the appliance *[Iverson, figure 7]*.

5-4. Regarding claim 5, Iverson and Zancho teach the claim wherein the input/output module storing unit comprises a mapping table comprising storage areas of input/output module IDs and the stored input/output modules, by disclosing *[Iverson, figures 3, 4]* which shows tables mapping a location with stored interface characteristics.

5-5. Regarding claim 6, Iverson and Zancho teach the claim wherein the mapping included in the input/output module selecting unit is a mapping table and the input/output module selecting unit comprises the mapping table comprising condition IDs and input/output module IDs, by disclosing *[Iverson, figure 3; Zancho, figure 11]*.

5-6. Regarding claim 35, Iverson and Zancho teach the claim wherein the input/output selecting unit searches the mapping for the specific input/output module corresponding to one of the users, to provide a searched input/output module, by disclosing providing a user code when multiple user preferences are stored and using the user code along with a determined location or location type of an electronic appliance to select the appropriate preference for the device *[Zancho, column 10, line 62 to column 11, line 16; Iverson, column 7, lines 39-47]*.

5-7. Regarding claim 36, Iverson and Zancho teach the claim wherein the mapping is prestored in the input/output module selecting unit and the input/output selecting unit searches the prestored mapping for the specific input/output module corresponding to the one of the users, to provide a searched input/output module, by disclosing that the donor device, which provides the user preferences, stores information indicative of a user such as a user code *[Zancho, column 10, lines 52-61]*.

5-8. Regarding claim 38, Iverson and Zancho teach the claim herein in the mapping included in the input/output module selecting unit, the one of the respective users is mapped to a plurality of the stored input/output modules, and the mapping includes a priority order in which the one of the respective users desires selection of the plurality of the stored input/output modules, and the input/output module selecting unit selects a first input/output module, among the plurality of the stored input/output modules, based on the priority order, by disclosing that default preferences are stored for a user *[Zancho, column 8, lines 28-32]*. If preferences are unavailable or unacceptable, preferences may be selected by a prediction process to select the next best preferences in the preference selection matrix *[Zancho, column 8, lines 32-52]*.

5-9. Regarding claim 39, Iverson and Zancho teach the claim wherein the data format determining unit determines whether the first input/output module can process the type of data supported by the UI support module, and if the first input/output module cannot process the type of data supported by the UI support module, the input/output module

selecting unit selects a second input/output module, among the plurality of the input/output modules, based on the priority order, and the data format determining unit determines whether the second input/output module can process the type of data supported by the UI support module, and the UI support module executes, in response to a result received from the data format determining unit, an input/output module corresponding to the one of the respective users, by disclosing that default preferences are stored for a user *[Zancho, column 8, lines 28-32]*. If preferences are unavailable or unacceptable, preferences may be selected by a prediction process to select the next best preferences in the preference selection matrix *[Zancho, column 8, lines 32-52]*.

Claims 8, 9, 11, 12

5-10. Regarding claim 8, Iverson teaches a UI support module operable to receive and store input/output modules, by disclosing enabling electronic devices to modify their user interface application set and functionality based on the location of the electronic device *[column 1, lines 8-13]*. A memory/storage device stores an interface characteristics/application set database, which correlates a number of interface characteristics and application sets with location types/operating environments and/or appliance personalities *[column 7, lines 47-54]*. An operating system as shown in *[figure 8]* provides an interface between a user interface manager application and hardware elements of the host electronic appliance *[column 11, lines 49-64]*.

Iverson teaches the UI support module operable to receive and store input/output modules corresponding to conditions of respective users, by disclosing that based on a

determined location of location type of an electronic appliance, a controller identifies an appropriate appliance personality from a plurality of available personalities *[column 7, lines 39-47]*. Users can define the personalities associated with a particular location ID *[column 7, lines 2-5]* and can also change and customize the dynamically selected personality by selecting an alternate personality *[column 7, lines 9-22]*. Appliance personalities represent various user interfaces and functions/applications on an electronic device that are made available to a user *[column 3, lines 23-56]*.

Iverson teaches the UI support module operable to search for a specific input/output module for a user requested through a household appliance, by disclosing that based on a determined location of location type of an electronic appliance, a controller identifies an appropriate appliance personality from a plurality of available personalities *[column 7, lines 39-47]*.

Iverson teaches the UI support module operable to provide a searched input/output module to the household appliance, and operable to support a UI of the user in the household appliance, by disclosing that once an appropriate appliance personality is selected, the interface of the appliance is adjusted to reflect the selected personality *[figure 2, 208]*.

Iverson does not expressly teach that the UI support module is externally provided in a web server or a home server and wherein the external UI support module comprises an external input/output module selecting unit including a mapping of each of the respective users with corresponding at least one of the stored input/output modules, and a data format determining unit for determining whether the searched input/output

module provided by the external input/output module selecting unit can process a type of data of the external UI support module, through a table where the input/output modules and data formats that can be processed in respective input/output modules of the table are mapped. Zancho discloses selecting and managing personal attributes of devices based on user preferences *[column 1, lines 10-12; column 2, lines 31-37]*. A user preference set may be stored on a donor device which may be a widely accessible central database *[column 2, lines 37-40]* or file server *[column 4, lines 26-32]*. This allows a user to obtain preference information without the need for carrying a card or physically connecting devices *[column 4, lines 54-59]*. When obtaining user preferences from a donor device that has preferences for more than one user, information of a user such as a user code is sent to access the donor device *[column 9, lines 49-55; column 10, lines 52-61]*. The user code is used to select the appropriate preference for the device *[column 10, line 62 to column 11, line 16]*. When new preferences are needed for an application device, a donor device is searched *[figure 14, 905]*. If a donor device is found, a determination is made as to which categories of preferences between the donor device and the appliance *[figure 14, 915]*. This is made using a reference selection matrix for the particular donor device *[column 10, lines 48-51]*. The reference selection matrix is used to yield the preference selection vector *[column 10, lines 52-61]*. This allows compatible preferences to be conveniently established for users of various devices. Since Iverson discloses adjusting the user interface and application set of electronic appliances with an appropriate one of a plurality of available appliance personalities and the need for adjusting a user interface and perceived functionality

based on location or user *[Iverson, column 2, lines 11-14]*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a server providing a mapping of each of the respective users with corresponding at least one of the appliance personalities, as taught by Zancho. This would allow compatible preferences to be conveniently established for users of various devices.

5-11. Regarding claim 9, Iverson and Zancho teach the claim wherein the external UI support module comprises an external input/output module storing unit for storing the input/output modules that provide relevant UIs depending on the conditions of the respective user, by disclosing that user preference information is stored on a file server *[Zancho, column 4, lines 26-32]*.

Iverson and Zancho teach an external input/output module selecting unit for searching the external input/output module storing unit for the specific input/output module corresponding to the condition of the one of the respective users requested by the household appliance, and providing a searched input/output module to the household appliance, by disclosing that when new preferences are needed for an application device, a donor device is searched *[Zancho, figure 14, 905]*. If a donor device is found, a determination is made as to which categories of preferences between the donor device and the appliance *[Zancho, figure 14, 915]*. A reference selection matrix is used to yield the preference selection vector *[column 10, lines 52-61]*.

5-12. Regarding claim 11, Iverson and Zancho teach the claim wherein the mapping is a mapping table and the external input/output module storing unit comprises the mapping table comprising storage areas of input/output module IDs and the stored input/output modules, by disclosing *[Iverson, figures 3, 4]* which shows tables mapping a location with stored interface characteristics and *[Zancho, figure 11]*

5-13. Regarding claim 12, Iverson and Zancho teach the claim wherein the mapping table is a mapping table and the external input/output module selecting unit comprises the mapping table comprising condition IDs and input/output module IDs, by disclosing *[Iverson, figure 3]* and *[Zancho, figure 11]*

Claim 13-16, 18, 20, 21

5-14. Regarding claim 13, Iverson teaches the claim comprising an internal user interface (UI) support module provided in a household appliance, for supporting UIs through input/output modules depending on conditions of respective user, by disclosing enabling electronic devices to modify their user interface application set and functionality based on the location of the electronic device *[column 1, lines 8-13; figure 1]*.

Iverson does not expressly teach an external UI support module provided in a web server or a home server connected to the internal UI support module through a wired/wireless communication network, for managing the input/output modules depending on the conditions of the respective user transmitted through the internal UI

support module and providing a specific input/output module requested by the internal UI support module, wherein the external UI support module comprises an external input/output module selecting unit, wherein the external UI support module comprises an external input/output module selecting unit including a mapping of each of the respective users with corresponding at least one of the stored input/output modules, and a data format determining unit for determining whether the searched input/output module provided by the external input/output module selecting unit can process a type of data of the external UI support module, through a table where the input/output modules and data formats that can be processed in respective input/output modules of the table are mapped. Zancho discloses selecting and managing personal attributes of devices based on user preferences *[column 1, lines 10-12; column 2, lines 31-37]*. A user preference set may be stored on a donor device which may be a widely accessible central database *[column 2, lines 37-40]* or file server *[column 4, lines 26-32]*. This allows a user to obtain preference information without the need for carrying a card or physically connecting devices *[column 4, lines 54-59]*. When obtaining user preferences from a donor device that has preferences for more than one user, information of a user such as a user code is sent to access the donor device *[column 9, lines 49-55; column 10, lines 52-61]*. The user code is used to select the appropriate preference for the device *[column 10, line 62 to column 11, line 16]*. When new preferences are needed for an application device, a donor device is searched *[figure 14, 905]*. If a donor device is found, a determination is made as to which categories of preferences between the donor device and the appliance *[figure 14, 915]*. This is made using a reference

selection matrix for the particular donor device *[column 10, lines 48-51]*. The reference selection matrix is used to yield the preference selection vector *[column 10, lines 52-61]*. This allows compatible preferences to be conveniently established for users of various devices. Since Iverson discloses adjusting the user interface and application set of electronic appliances with an appropriate one of a plurality of available appliance personalities and the need for adjusting a user interface and perceived functionality based on location or user *[Iverson, column 2, lines 11-14]*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a server providing a mapping of each of the respective users with corresponding at least one of the appliance personalities, as taught by Zancho. This would allow compatible preferences to be conveniently established for users of various devices.

5-15. Regarding claim 14, Iverson and Zancho teach the claim wherein the internal UI support module comprises an input/output module storing unit for storing and managing the input/output modules, by disclosing a memory/storage device stores an interface characteristics/application set database, which correlates a number of interface characteristics and application sets with location types/operating environments and/or applicant personalities *[Iverson, column 7, lines 47-54]*.

Iverson and Zancho teach the internal UI support module comprising an input/output module selecting unit for searching the input/output module storing unit for the specific internal input/output module meeting a condition of the one of the respective users to provide a searched input/output module, by disclosing that based on a

determined location of location type of an electronic appliance, a controller identifies an appropriate appliance personality from a plurality of available personalities *[Iverson, column 7, lines 39-47]*. Users can define the personalities associated with a particular location ID *[Iverson, column 7, lines 2-5]* and can also change and customize the dynamically selected personality by selecting an alternate personality *[Iverson, column 7, lines 9-22]*.

Iverson and Zancho teach the internal UI support module comprising a data processing unit for receiving and processing data necessary for generation and processing of the UI, said data being generated from the household appliance that requests the input/output module, by disclosing one or more processors in the appliance *[Iverson, figure 7]*.

Iverson and Zancho teach the internal UI support module comprising an input/output processing unit for processing the UI processed in the searched input/output module executed at the input/output module executing unit to output the UI on a first screen, by disclosing that once an appropriate applicant personality is selected, the interface of the appliance is adjusted to reflect the selected personality *[Iverson, figure 2, 208; figure 7]*.

5-16. Regarding claim 15, Iverson and Zancho teach the claim wherein the input/output module storing unit comprises a mapping table comprising storage areas of input/output module IDs and the input/output module, by disclosing *[Iverson, figures 3, 4]* which shows tables mapping a location with stored interface characteristics.

5-17. Regarding claim 16, Iverson and Zancho teach the claim wherein the mapping is a mapping table and the input/output module selecting unit includes the mapping table comprising condition IDs and input/output module IDs, by disclosing *[Iverson, figure 3]*.

5-18. Regarding claim 18, Iverson and Zancho teach the claim wherein the external UI support module comprises an external input/output module storing unit for storing the input/output modules that provide relevant UIs depending on the conditions of the respective users, by disclosing that user preference information is stored on a file server *[Zancho, column 4, lines 26-32]*.

Iverson and Zancho teach an external input/output module selecting unit for searching the external input/output module storing unit for the specific input/output module corresponding to the condition of the one of the respective users requested by the household appliance, and providing a searched input/output module to the household appliance, by disclosing that when new preferences are needed for an application device, a donor device is searched *[Zancho, figure 14, 905]*. If a donor device is found, a determination is made as to which categories of preferences between the donor device and the appliance *[Zancho, figure 14, 915]*. A reference selection matrix is used to yield the preference selection vector *[column 10, lines 52-61]*.

5-19. Regarding claim 20, Iverson and Zancho teach the claim wherein the external input/output module storing unit comprises a mapping table comprising storage areas of

input/output module IDs and input/output modules, by disclosing *[Iverson, figures 3, 4]* which shows tables mapping a location with stored interface characteristics and *[Zancho, figure 11]*

5-20. Regarding claim 21, Iverson and Zancho teach the claim wherein the mapping table is a mapping table and the external input/output module selecting unit comprises the mapping table comprising condition IDs and input/output module IDs, by disclosing *[Iverson, figure 3]* and *[Zancho, figure 11]*

Claims 22-26

5-21. Regarding claim 22, Iverson teaches the claim comprising an input/output module registering operation of receiving input/output modules meeting conditions of respective users as received input/output modules and registering the received input/output modules in an internal input/output module selecting unit of an internal UI support module, by disclosing enabling electronic devices to modify their user interface application set and functionality based on the location of the electronic device *[column 1, lines 8-13]*. Users can define the personalities associated with a particular location ID *[column 7, lines 2-5]* and can also change and customize the dynamically selected personality by selecting an alternate personality *[column 7, lines 9-22]*.

Iverson teaches an input/output module providing operation of, if a first specific input/output module of one of the respective users is requested through the internal UI support module, searching for and providing the first specific input/output module as a

provided input/output module, by disclosing that based on a determined location of location type of an electronic appliance, a controller identifies an appropriate appliance personality from a plurality of available personalities *[column 7, lines 39-47]*.

Iverson teaches a UI support operation for executing the provided input/output module and supporting a UI meeting the condition of the one of the respective users through the provided input/output module, by disclosing that once an appropriate appliance personality is selected, the interface of the appliance is adjusted to reflect the selected personality *[figure 2, 208]*.

Although Iverson teaches adjusting appliance personalities to meet the dynamic demands of ever mobile appliance users *[column 8, lines 26-32]*, Iverson does not expressly teach a mapping of each of the respective users with corresponding at least one of the registered input/output modules, wherein the input/output module providing operation comprises an operation of providing the UI meeting the condition of the one of the respective users through the input/output module provided by an external UI support module, wherein the operation of providing the UI meeting the condition of the one of the respective users through the input/output module provided by an external UI support module comprises: determining whether the first specific input/output module corresponding to a condition ID received from the one of the respective users is present by an external input/output module selecting unit of the external UI support module, if it is determined that the first specific input/output module corresponding to the condition ID is not present, providing the UI through a default input/output module; and if it is determined that the first specific input/output module corresponding to the condition ID

is present, determining, by a data format determining unit, whether the first specific input/output module is compatible with an appliance requesting the first specific input/output module, and providing the UI through the default input/output module if it is determined that the first specific input/output module is not compatible with the appliance, or providing the UI through the first specific input/output module if it is determined that the input/output module is compatible with the appliance. Zancho discloses selecting and managing personal attributes of devices based on user preferences *[column 1, lines 10-12; column 2, lines 31-37]*. A user preference set may be stored on a donor device which may be a widely accessible central database *[column 2, lines 37-40]* or file server *[column 4, lines 26-32]*. This allows a user to obtain preference information without the need for carrying a card or physically connecting devices *[column 4, lines 54-59]*. When obtaining user preferences from a donor device that has preferences for more than one user, information of a user such as a user code is sent to access the donor device *[column 9, lines 49-55; column 10, lines 52-61]*. The user code is used to select the appropriate preference for the device *[column 10, line 62 to column 11, line 16]*. When new preferences are needed for an application device, a donor device is searched *[figure 14, 905]*. If no donor device is available, default preferences are used *[figure 14, 907]*. If a donor device is found, a determination is made as to which categories of preferences between the donor device and the appliance *[figure 14, 915]*. This is made using a reference selection matrix for the particular donor device *[column 10, lines 48-51]*. The reference selection matrix is used to yield the preference selection vector *[column 10, lines 52-61]*. This allows compatible

preferences to be conveniently established for users of various devices. Since Iverson discloses adjusting the user interface and application set of electronic appliances with an appropriate one of a plurality of available appliance personalities and the need for adjusting a user interface and perceived functionality based on location or user *[Iverson, column 2, lines 11-14]*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a server providing a mapping of each of the respective users with corresponding at least one of the appliance personalities, as taught by Zancho. This would allow compatible preferences to be conveniently established for users of various devices.

5-22. Regarding claim 23, Iverson and Zancho teach the invention with respect to claim 22. Iverson further teaches the claim wherein the input/output module registering operation comprises selecting a second specific input/output module for generating a UI to be used in the future by the one of the respective users, as a selected input/output module, by disclosing that users can change and customize the dynamically selected personality by selecting an alternate personality *[Iverson, column 7, lines 9-22]*.

Iverson and Zancho teach determining whether the selected input/output module is present in an internal input/output module storing unit of the internal UI support module, by disclosing that a controller identifies an appropriate appliance personality from a plurality of available personalities *[Iverson, column 7, lines 39-47]*.

Iverson and Zancho teach if the selected input/output module is present, writing a condition ID of the one of the respective users and information on the selected

input/output module in the internal input/output module selecting unit, by disclosing that IDs are used to determine the appliance personality *[Iverson, figures 3, 4]*.

Iverson and Zancho teach if the selected input/output module is not present, requesting the selected input/output module through an external UI support module, determining whether the selected input/output module is present in an external input/output module storing unit of the external UI support module, and if the selected input/output module is present, writing the condition ID of the one of the respective users and the information on the selected input/output module in the internal input/output module selecting unit, by disclosing that when new preferences are needed for an application device, a donor device is searched *[Zancho, figure 14, 905]*. If a donor device is found, a determination is made as to which categories of preferences between the donor device and the appliance *[Zancho, figure 14, 915]*. This is made using a reference selection matrix for the particular donor device *[Zancho, column 10, lines 48-51]*. The reference selection matrix is used to yield the preference selection vector *[Zancho, column 10, lines 52-61]*. The user code is used to select the appropriate preference for the device *[Zancho, column 10, line 62 to column 11, line 16]*.

5-23. Regarding claim 24, Iverson and Zancho teach the claim wherein the operation of writing comprises writing the condition ID of the one of the respective users and the information on the selected input/output module in an external input/output module selecting unit, by disclosing that IDs are used to determine the appliance personality

[Iverson, figures 3, 4] and that user preference information is stored on a file server *[Zancho, column 4, lines 26-32]*.

5-24. Regarding claim 25, Iverson and Zancho teach the claim wherein if the selected input/output module is not present in the external input/output module storing unit, providing the UI through a default input/output module, by disclosing that when new preferences are needed for an application device, a donor device is searched *[Zancho, figure 14, 905]*. If no donor device is available, default preferences are used *[Zancho, figure 14, 907]*.

5-25. Regarding claim 26, Iverson and Zancho teach the invention with respect to claim 22. Iverson and Zancho further teaches the claim wherein the input/output module providing operation comprises receiving a condition ID from the one of the respective users and determining whether the condition ID has been registered through the internal input/output module selecting unit, by disclosing that users can define the personalities associated with a particular location ID *[Iverson, column 7, lines 2-5]*. A controller identifies an appropriate appliance personality from a plurality of available personalities *[Iverson, column 7, lines 39-47]*.

Iverson and Zancho teach if the condition ID has been registered, selecting the first specific input/output module according to the condition ID and providing the UI meeting the condition of the one of the respective users, by disclosing that based on a determined location of location type of an electronic appliance, a controller identifies an

appropriate appliance personality from a plurality of available personalities *[Iverson, column 7, lines 39-47]*.

Iverson and Zancho teach if the condition ID has not been registered, requesting an external UI support module to transmit the first specific input/output module according to the condition ID and providing the UI meeting the condition of the one of the respective users through the input/output module provided by the external UI support module, by disclosing that if new preferences are needed for an application device, a donor device is searched *[figure 14, 905]*. If no donor device is available, default preferences are used *[figure 14, 907]*.

Claim 28

5-26. Regarding claim 28, Iverson teaches the claim comprising if an input/output module corresponding to a specific condition ID is requested by a UI support module provided in a household electric appliance, searching for the input/output module corresponding to the condition ID through an input/output module storing unit, by disclosing enabling electronic devices to modify their user interface application set and functionality based on the location of the electronic device *[column 1, lines 8-13; figure 1]*. Based on a determined location of location type of an electronic appliance, a controller identifies an appropriate appliance personality from a plurality of available personalities *[column 7, lines 39-47]*.

Iverson teaches if the input/output module corresponding to the condition ID is found as a searched input/output module, providing the searched input/output module to

the UI support module of the household appliance, by disclosing that once an appropriate appliance personality is selected, the interface of the appliance is adjusted to reflect the selected personality *[figure 2, 208]*.

Iverson does not expressly teach searching an external input/output module storing unit and providing the searched input/output module by an external input/output module selecting unit wherein the searching for the input/output module corresponding to the condition ID comprises searching a mapping of each of a plurality of users with corresponding at least one of the stored input/output modules, wherein the operation of providing the searched input/output module comprises determining, by a data format determining unit, whether the searched input/output module is compatible with the household appliance, and providing a default input/output module if the searched input/output module is not compatible with the household appliance, or providing the searched input/output module if the searched input/output module is compatible with the household appliance. Zancho discloses selecting and managing personal attributes of devices based on user preferences *[column 1, lines 10-12; column 2, lines 31-37]*. A user preference set may be stored on a donor device which may be a widely accessible central database *[column 2, lines 37-40]* or file server *[column 4, lines 26-32]*. This allows a user to obtain preference information without the need for carrying a card or physically connecting devices *[column 4, lines 54-59]*. When obtaining user preferences from a donor device that has preferences for more than one user, information of a user such as a user code is sent to access the donor device *[column 9, lines 49-55; column 10, lines 52-61]*. The user code is used to select the appropriate preference for the

device *[column 10, line 62 to column 11, line 16]*. When new preferences are needed for an application device, a donor device is searched *[figure 14, 905]*. If no donor device is available, default preferences are used *[figure 14, 907]*. If a donor device is found, a determination is made as to which categories of preferences between the donor device and the appliance *[figure 14, 915]*. This is made using a reference selection matrix for the particular donor device *[column 10, lines 48-51]*. The reference selection matrix is used to yield the preference selection vector *[column 10, lines 52-61]*. This allows compatible preferences to be conveniently established for users of various devices. Since Iverson discloses adjusting the user interface and application set of electronic appliances with an appropriate one of a plurality of available appliance personalities and the need for adjusting a user interface and perceived functionality based on location or user *[Iverson, column 2, lines 11-14]*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a server providing a mapping of each of the respective users with corresponding at least one of the appliance personalities, as taught by Zancho. This would allow compatible preferences to be conveniently established for users of various devices.

Claim 30-32, 34

5-27. Regarding claim 30, Iverson teaches the claim comprising receiving input/output modules meeting conditions of respective users as received input/output modules and registering the received input/output modules in an input/output module selecting unit of an internal UI support module, by disclosing enabling electronic devices to modify their

user interface application set and functionality based on the location of the electronic device *[column 1, lines 8-13]*. Users can define the personalities associated with a particular location ID *[column 7, lines 2-5]* and can also change and customize the dynamically selected personality by selecting an alternate personality *[column 7, lines 9-22]*.

Iverson teaches if a specific input/output module of one of the respective users is requested through the internal UI support module, determining whether the input/output module is present in an input/output module storing unit, by disclosing that based on a determined location of location type of an electronic appliance, a controller identifies an appropriate appliance personality from a plurality of available personalities *[column 7, lines 39-47]*.

Iverson teaches if the specific input/output module is present in the input/output module storing unit, providing a UI meeting the condition of the one of the respective users through the specific input/output module, by disclosing that once an appropriate appliance personality is selected, the interface of the appliance is adjusted to reflect the selected personality *[figure 2, 208]*.

Iverson does not expressly teach if the specific input/output module is not present in the input/output module storing unit, requesting an external input/output module storing unit provided in an external server at a remote place to transmit the specific input/output module as a transmitted input/output module and providing the UI meeting the condition of the one of the respective users through the transmitted input/output module, wherein the determining whether the input/output module is

present in the input/output module storing unit comprises searching a mapping of each of the respective users with corresponding at least one of received input/output modules, wherein the operation of providing the UI comprises determining, by a data format determining unit, whether specific input/output module is compatible with the internal UI support module, and providing the UI through a default input/output module if the specific input/output module is not compatible with the internal UI support module, or providing the UI through the specific input/output module if the specific input/output module is compatible with the internal UI support module. Zancho discloses selecting and managing personal attributes of devices based on user preferences *[column 1, lines 10-12; column 2, lines 31-37]*. A user preference set may be stored on a donor device which may be a widely accessible central database *[column 2, lines 37-40]* or file server *[column 4, lines 26-32]*. This allows a user to obtain preference information without the need for carrying a card or physically connecting devices *[column 4, lines 54-59]*. When obtaining user preferences from a donor device that has preferences for more than one user, information of a user such as a user code is sent to access the donor device *[column 9, lines 49-55; column 10, lines 52-61]*. The user code is used to select the appropriate preference for the device *[column 10, line 62 to column 11, line 16]*. When new preferences are needed for an application device, a donor device is searched *[figure 14, 905]*. If no donor device is available, default preferences are used *[figure 14, 907]*. If a donor device is found, a determination is made as to which categories of preferences between the donor device and the appliance *[figure 14, 915]*. This is made using a reference selection matrix for the particular donor device *[column*

10, lines 48-51]. The reference selection matrix is used to yield the preference selection vector *[column 10, lines 52-61]*. This allows compatible preferences to be conveniently established for users of various devices. Since Iverson discloses adjusting the user interface and application set of electronic appliances with an appropriate one of a plurality of available appliance personalities and the need for adjusting a user interface and perceived functionality based on location or user *[Iverson, column 2, lines 11-14]*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a server providing a mapping of each of the respective users with corresponding at least one of the appliance personalities, as taught by Zancho. This would allow compatible preferences to be conveniently established for users of various devices.

5-28. Regarding claim 31, Iverson and Zancho teach the claim wherein the input/output module registering operation comprises selecting the specific input/output module for generating the UI to be used in the future by the one of the respective users, as a selected input/output module, by disclosing that users can change and customize the dynamically selected personality by selecting an alternate personality *[Iverson, column 7, lines 9-22]*.

Iverson and Zancho teach determining whether the selected input/output module is present in the input/output module storing unit of the internal UI support module, by disclosing that a controller identifies an appropriate appliance personality from a plurality of available personalities *[Iverson, column 7, lines 39-47]*.

Iverson and Zancho teach if the selected input/output module is present, writing a condition ID of the one of the respective users and information on the selected input/output module in the internal input/output module selecting unit, by disclosing that IDs are used to determine the appliance personality *[Iverson, figures 3, 4]*.

Iverson and Zancho teach if the specific input/output module is not present in the input/output module storing unit, requesting an external input/output module storing unit provided in an external server at a remote place to transmit the specific input/output module as a transmitted input/output module and providing the UI meeting the condition of the one of the respective users through the transmitted input/output module, by disclosing that when new preferences are needed for an application device, a donor device is searched *[Zancho, figure 14, 905]*. If a donor device is found, a determination is made as to which categories of preferences between the donor device and the appliance *[Zancho, figure 14, 915]*. This is made using a reference selection matrix for the particular donor device *[Zancho, column 10, lines 48-51]*. The reference selection matrix is used to yield the preference selection vector *[Zancho, column 10, lines 52-61]*. The user code is used to select the appropriate preference for the device *[Zancho, column 10, line 62 to column 11, line 16]*.

5-29. Regarding claim 32, Iverson and Zancho teach the claim wherein the operation of writing comprises writing the condition ID of the one of the respective users and the information on the selected input/output module in an external input/output module selecting unit, by disclosing that IDs are used to determine the appliance personality

[Iverson, figures 3, 4] and that user preference information is stored on a file server *[Zancho, column 4, lines 26-32]*.

5-30. Regarding claim 34, Iverson and Zancho teach the claim wherein if the selected input/output module is not present in the input/output module storing unit of the external UI support module, providing the UI through a default input/output module, by disclosing that when new preferences are needed for an application device, a donor device is searched *[Zancho, figure 14, 905]*. If no donor device is available, default preferences are used *[Zancho, figure 14, 907]*.

6. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iverson (U.S. Patent No. 6,957,075 B1), in view of Zancho (U.S. Patent No. 5,814,798), and further in view of Nakajima (U.S. Patent No. 7,095,456 B2).

Claim 7

6-1. Regarding claim 7, Iverson and Zancho teach the invention with respect to claim 2. Iverson and Zancho do not expressly teach the claim wherein the input/output processing unit transmits the UI to a remote device with a second screen. Nakajima discloses a method of remotely controlling electronic devices *[column 1, lines 7-13]*. A field extensible remote control receives user interfaces from electronic devices *[column 5, lines 22-28]* and may display the user interface on a screen of the remote control in order to control the electronic devices *[column 7, lines 12-38]*. Receiving a user

interface directly from the electronic device allows a universal remote control to control the electronic devices, even if the electronic devices have updated or different user interfaces.

Since Iverson and Zancho teach adjusting the user interface and application set of electronic appliances with an appropriate one of a plurality of available appliance personalities, it would have been obvious to one of ordinary skill in the art at the time the invention was made to transmit the UI to a remote device with a second screen, as taught by Nakajima. This would allow a remote control to control the electronic device, even if the electronic devices receive updated or different user interfaces.

Claim 17

6-2. Regarding claim 17, Iverson and Zancho teach the invention with respect to claim 14. Iverson and Zancho do not expressly teach the claim wherein the input/output processing unit transmits the UI to a remote device with a second screen. Nakajima teaches a method of remotely controlling electronic devices *[column 1, lines 7-13]*. A field extensible remote control receives user interfaces from electronic devices *[column 5, lines 22-28]* and may display the user interface on a screen of the remote control in order to control the electronic devices *[column 7, lines 12-38]*. Receiving a user interface directly from the electronic device allows a universal remote control to control the electronic devices, even if the electronic devices have updated or different user interfaces.

Since Iverson and Zancho teach adjusting the user interface and application set of electronic appliances with an appropriate one of a plurality of available appliance personalities, it would have been obvious to one of ordinary skill in the art at the time the invention was made to transmit the UI to a remote device with a second screen, as taught by Nakajima. This would allow a remote control to control the electronic device, even if the electronic devices receive updated or different user interfaces.

7. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iverson (U.S. Patent No. 6,957,075 B1), in view of Zancho (U.S. Patent No. 5,814,798), and further in view of Miller et al (Pub. No. US 2003/0046557 A1).

Claim 37

7-1. Regarding claim 37, Iverson and Zancho teach the invention with respect to claim 1. Iverson and Zancho further teach wherein the mapping is prestored, by disclosing that the donor device, which provides the user preferences, stores information indicative of a user such as a user code *[Zancho, column 10, lines 52-61]*.

Iverson and Zancho do not expressly teach wherein the one of the users is an authenticated user in an authentication. Miller teaches a system that provides customized display settings and preferences for multiple users *[paragraph 16]*. Users are authenticated before they can access their preferences *[paragraph 15]*. This would provide a level of security for accessing specific user-related information. Since Iverson and Zancho teach providing user-related information, it would have been obvious to one

of ordinary skill in the art at the time the invention was made to authenticate a user in an authentication, as taught by Miller. This would provide a level of security for accessing specific user-related information.

Response to Arguments

8. The Examiner acknowledges the Applicant's amendments to claims 2, 6, 8, 9, 11-14, 18, 22, 30, and 37 and the addition of claims 38 and 39. Regarding independent claim 1, Applicant alleges that Iverson (U.S. Patent No. 6,957,075 B1) in view of Zancho (U.S. Patent No. 5,814,798) fail to teach a data format determining unit that determines whether a searched input/output module provided by the input/output module selecting unit can process a type of data of the UI support module, through a table where the input/output modules and data formats that can be processed in respective input/output modules of the table are mapped. Contrary to Applicant's arguments, Zancho discloses selecting and managing personal attributes of devices based on user preferences *[column 1, lines 10-12; column 2, lines 31-37]*. A donor device stores and provides preferences to application devices *[column 2, lines 37-45]*. After preferences have been established, the user can refine the established preferences to newly selected user preferences or can defer refinement and selection to a later time *[column 8, lines 23-27]*. *[Figure 14]* illustrates a flow chart for obtaining preferences when new preferences are needed *[column 2, lines 21-23]*. When new preferences are needed in an application device, a donor device is searched *[figure 14, 905; column 10, lines 9-13]*. If a donor device is found, a determination is made as to which categories of preferences

between the donor device and the appliance *[figure 14, 915]*. The application device and donor device perform two-way communication to establish like categories and actual attribute selection within the categories *[column 10, lines 45-51]*. Selection of preference information is made using a reference selection matrix for the particular donor device *[column 10, lines 48-51; figure 11]*. The preference selection vector sent from the application device to the donor device is used to determine what preferences will be selected from the selection matrix to load into the new application *[column 10, line 62 to column 11, line 26]*. Thus, *[figure 14]* describes how the reference selection matrix is used to obtain preference information for a new application.

Applicant alleges that Zacho does not teach determining whether a searched input/output module provided by the input/output module selecting unit can process a type of data of the UI support module. Contrary to Applicant's arguments, Zacho discloses providing a mechanism to establish and manage preferences compatible with all new models of various types of telephone, automobile, computer, or other type of comformable equipment *[column 1, lines 55-59; column 2, lines 31-33]*. Preferences are based on a preference selection vector which is based on device type, application type, environment, and human senses *[column 9, lines 22-42]*. The preference selection vector sent from the application device to the donor device is used to determine what preferences will be selected from the selection matrix to load into the new application *[column 10, line 62 to column 11, line 26]*. The searched preferences that are selected from the selection matrix is deemed capable of processing a type of data for the application device if an attribute cell of the selection matrix matches the preference

selection vector *[column 7, line 60 to column 8, line 9]*. Further, a refinement process may be required if preferences are not entirely compatible *[column 10, lines 32-39]*. Thus, a determination must be made as to whether the searched preferences in the selection matrix can be processed by the application device based on the selection matrix *[figure 11]* having mapped application devices with data formats (visual, audio, etc.).

Similar arguments have been presented for independent claims 8, 13, 22, 28, and 30 and thus, Applicant's arguments are not persuasive for the same reasons.

Regarding newly added dependent claims 38 and 39, Applicant alleges that neither Zancho nor Iverson teach or suggest selection of preferences/personalities based on a priority order included in a mapping. Contrary to Applicant's arguments, Zancho discloses that default preferences are stored for a user *[column 8, lines 28-32]*. If preferences are unavailable or unacceptable, preferences may be selected by a prediction process to select the next best preferences in the preference selection matrix *[column 8, lines 32-52]*.

Applicant states that dependent claims 2, 3, 5-7, 9, 11, 12, 14-18, 20, 21, 23-26, 31, 32, and 34-37 recite all the limitations of the independent claims, and thus, are allowable in view of the remarks set forth regarding independent claims 1, 8, 13, 22, 28, and 30. However, as discussed above, Iverson and Zancho are considered to teach claims 1, 8, 13, 22, 28, and 30, and consequently, claims 2, 3, 5-7, 9, 11, 12, 14-18, 20, 21, 23-26, 31, 32, and 34-37 are rejected.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALVIN H. TAN whose telephone number is (571)272-8595. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu Vu can be reached on 571-272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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